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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,445

04/27/2006

Takahiro Kondo

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02/24/2009

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ALEXANDRIA, VA 22320-4850

EXAMINER

CHAWAN, SHEELA C

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

02/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,445

Applicant(s)

KONDO ET AL.

Examiner

SHEELA C. CHAWAN

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 15-21, 26-32 is/are rejected.
7) ☒ Claim(s) 22-25, 33-36 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 7/18/06: 4/27/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

2. Preliminary amendment filed on 4/27/06 has been entered.
Claims 1-14 are cancelled.
Claims 15 - 36 are pending in the application.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 7/18/06; 4/27/06 has been considered by the examiner.

Drawings

4. The Examiner has approved drawings filed on 10/9/03.

Claim Objections

5. Claims 15, 17, 26 and 28 are objected to because of the following informalities:
In claim 15, line 7, change “,” to -- ; -- .
In claim 15, line 9, change “,” to -- ; -- .
In claim 15, line 11, change “,” to -- ; -- .
In claim 17, line 7, change “,” to -- ; -- .
In claim 17, line 9, change “,” to -- ; -- .
In claim 26, line 8, change “,” to -- ; -- .

In claim 26, line 12, change “,” to -- ; -- .

In claim 26, line 14, change “,” to -- ; -- .

In claim 28, line 8, change “,” to -- ; -- .

In claim 28, line 11, change “,” to -- ; -- .

Similarly all the claims need to be corrected .

Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15 - 25 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a machine or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. The recited steps of “allowing a diffusion light to enter from one end face of a honeycomb

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

structure, allowing the exited diffusion light to pass through a translucent screen, projecting a transmitted image by means of the tone of the transmitted light onto the transmitted light side of the screen, picking up the transmitted image projected on the screen by an imaging means, analyzing the gray level to obtained image of the surface unevenness of the partition walls of the honeycomb structure” neither transform underlying subject matter nor positively tie to a machine that accomplished the claimed method steps. In order for process to be “tied” to a machine, the structure of a machine should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements or intended use or purpose, insignificant pre or post solution explicitly, or implicitly. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15 - 21, 26 - 32, are rejected under 35 U.S.C. 102(b) as being anticipated by Ohnishi et al., (US. 5,463,462).

As to claim 15, Ohnishi discloses a method of inspecting, for each cell, unevenness of a partition wall surface of a cylindrical honeycomb structure having a plurality of cells functioning as passages for fluid and separated from each other by

partition walls (note, a collimator converts the laser beam into parallel laser beam (this is a device making the light diffuse) prior to passing through the honeycomb structure) column 4, lines 41-49, abstract), the method comprising the steps of:

allowing a diffusion light (fig 1, elements 18, 28, 30, going through object- 14, and passing through the honeycomb object 14, column 4, lines 39 - 48) to enter from one end face side of a honeycomb structure by a predetermined lighting means and to exit from the other end face side of the honeycomb structure after passing it through the inside of the cells (column 4, lines 46- 49, the light exiting from the honeycomb structure passes through a deflection lens and reaches a focal plane),

allowing the exited diffusion light to pass through a translucent screen disposed on the other end face side of the honeycomb structure to act as a transmitted light (the exiting light is picked up by the imaging means (fig 1, element 34, 36, 38 and 40, and imaging means CCD camera, column 4, lines 48- 52),

projecting a transmitted image by means of the tone of the transmitted light onto the transmitted light side of the screen (note transmitted light is picked up by fig 1, element 36, the transmitted light with the intensity tone),

picking up the transmitted image projected on the screen by an imaging means (note transmitted light is picked up by fig 1, element 36, the transmitted light with the intensity tone), and

analyzing by an analyzing means the gray level of the obtained image to inspect for each cell the level of the surface unevenness of the partition walls of the honeycomb structure (note, fig 1, element 48, column 4, lines 60- 64, the image processor 48 in fig 1,

for analyzing the image based on measured intensity of light (column 3, lines 23- 30), also see column 4, lines 59- 65 for gray levels).

As to claim 16, Ohnishi discloses a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 15, wherein the screen, is disposed so as to be in contact with the other end face side of the honeycomb structure (note, the screen to pickup the transmitted light from the honey comb structure is on the end opposite the light source, fig 1, elements 36 and 40).

Regarding claim 17, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

As to claim 18, Ohnishi discloses a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 15, wherein the gray level of the image is analyzed by being subjected to a binary treatment with the analyzing means (column 8, lines 23-24, signal is converted to binary signal).

As to claim 19, Ohnishi discloses a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 17, wherein the gray level of the image is analyzed by being subjected to a binary treatment with the analyzing means (note, unevenness of the partition walls (having intensities) inspected by image processor, column 7, lines 64- 67, column 8, lines 1-8).

As to claim 20, Ohnishi discloses a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 15, wherein a shadow generated by the partition walls in the image is removed before the

gray level of the image is analyzed by the analyzing means (column 8, lines 62- 64, the brightness areas (areas generated by walls), which are less than the brightness areas (holes)).

Regarding claim 21, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 20.

As to claim 26, Ohnishi discloses an inspecting device for inspecting, for each cell, unevenness of a partition wall surface of a cylindrical honeycomb structure having a plurality of cells functioning as passages for fluid and separated from each other by partition walls, the inspecting device comprising:

a lighting means disposed on one end face side of the honeycomb structure and allowing a diffusion light to enter from one end face side of a honeycomb structure and to exit from the other end face side of the honeycomb structure after passing it through the inside of the cells (fig 1, elements 18, 28, 30, column 4, lines 41- 44).

a translucent screen disposed on the other end face side of the honeycomb structure, allowing the exited diffusion light to pass there through to obtain a transmitted light, and capable of projecting a transmitted image by means of the tone of the transmitted light onto the transmitted light side of the screen (fig 1, element 30),

an imaging means for picking up the transmitted image projected on the screen (fig 1, element 32, column 4, line 50), and

an analyzing means for analyzing the gray level of the image picked up by the imaging means to inspect for each cell the level of the surface unevenness of the partition walls

of the honeycomb structure (fig 1, element 48, and column 4, lines 60-61).

As to claim 27, Ohnishi discloses an inspecting device for inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 26, wherein the screen is disposed so as to be in contact with the other end face side of the honeycomb structure (fig 1, element 36 can be incorporated as screen to receive the light coming through the honey comb object) receives the image and transmits to the imaging device (CCD camera element 32).

As to claim 28, Ohnishi discloses an inspecting device for inspecting, for each cell, unevenness of a partition wall surface of a cylindrical honeycomb structure having a plurality of cells functioning as passages for fluid and separated from each other by partition walls, the inspecting device comprising:

a lighting means disposed on one end face side of the honeycomb structure and allowing a diffusion light to enter from one end face side of a honeycomb structure and to exit from the other end face side of the honeycomb structure after passing it through the inside of the cells (fig 1, element 18, 28 and 30, are located on the light receiving side of the honeycomb structure element 14, and exits through other end of the object element 16, column 4, lines 41- 45),

an imaging means disposed on the other end face side of the honeycomb structure and allowing the exited diffusion light to be picked up for each cell from the direction perpendicular to the other end face of the honeycomb structure (note, imaging means consists of element fig 1, 36, 38, 40 and CCD camera (32), column 4, lines 49-52), and

an analyzing means for analyzing the gray level of the image picked up by the imaging means to inspect for each cell the level of the surface unevenness of the partition walls of the honeycomb structure from a result of analysis by the analyzing means (fig 1, element 48, column 4, lines 60-63, column 7, lines 21- 30).

Regarding claim 29, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 18.

Regarding claim 30, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 29.

Regarding claim 31, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 21.

Regarding claim 32, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 21.

Allowable Subject Matter

8. Claims 22- 25, 33 - 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art on record teaches or fairly suggests, a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 15, wherein the diffusion light from the lighting means has an illuminance of 3000 Lux or more as required by claim 22 and 33.

None of the prior art on record teaches or fairly suggests, a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 17, wherein the diffusion light from the lighting means has an illuminance of 3000 Lux or more as required by claim 23 and 24.

None of the prior art on record teaches or fairly suggests, a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 15, wherein the screen has a light transmittance of 35 to 90% as required by claim 24 and 35.

None of the prior art on record teaches or fairly suggests, a method of inspecting unevenness of a partition wall surface of a cylindrical honeycomb structure according to Claim 17, wherein the screen has a light transmittance of 35 to 90% as required by claim 25 and 36.

Other prior art cited

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kato et al., (US. 6,764,743 B2) discloses porous honeycomb structure and process for production thereof.

Rai et al., (US. 5,184,190) discloses method and apparatus for detecting flaws and defects in heat seals.

Kondo et al., (US. 4,319,840) discloses Method and a device for inspecting bodies having a multiplicity of parallel channels extending therethrough.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEELA C. CHAWAN whose telephone number is (571)272-7446. The examiner can normally be reached on 7.30- 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sheela C Chawan/

2/14/09

Primary Examiner, Art Unit 2624

